

Atty. Docket No. 006629 USA D 01/PDC/WF/OR (Q77224)

PATENT APPLICATIONAMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/784,771RECEIVED
CENTRAL FAX CENTER**AMENDMENTS TO THE CLAIMS**

JUL 31 2006

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:1-4. (*Canceled*)5. (*Currently Amended*) AnThe optical inspection system as set forth in claim 1,
comprising:a light source outputting an annular beam;an objective lens focusing the annular beam at a target;a detector receiving light scattered from the target, through the objective lens; and

wherein:

the detector receives the scattered light, as dark field detection, through a portion of the objective lens corresponding to an inner part of the annular beam; and

the detector simultaneously receives light reflected from the target, as bright field detection, through a portion of the objective lens corresponding to an outer part of the annular beam.

6. (*Currently Amended*) TheAn optical inspection system as set forth in claim 1,
further comprising:a light source outputting an annular beam;an objective lens focusing the annular beam at a target;

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a detector receiving light scattered from the target, through the objective lens;
a scanner scanning the annular beam along a line in a given scanning direction to provide
a scanned single annular beam; and
a multiple beam splitter producing multiple annular beams of substantially identical
intensity from the scanned single annular beam.

7. *(Original)* The optical inspection system as set forth in claim 6, wherein:
the detector receives the scattered light, as dark field detection, through a portion of the
objective lens corresponding to an inner part of each of the annular beams; and

the detector simultaneously receives light reflected from the target, as bright field
detection, through a portion of the objective lens corresponding to an outer part of each of the
annular beams.

8. *(Original)* The optical inspection system as set forth in claim 6, wherein the
detector is a multiple line CCD camera, and wherein each of the multiple annular beams is
imaged on a separate one of the lines of the multiple line CCD camera.

9. *(Original)* An optical inspection system, comprising:
a light source outputting a single beam;
a scanner scanning the single beam along a line in a given scanning direction to provide a
scanned single beam; and

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a multiple beam splitter producing multiple beams of substantially identical intensity from the scanned single beam.

10. (*Original*) The optical inspection system as set forth in claim 9, wherein the multiple beam splitter produces the multiple beams with a diffractive optical element having uniform diffraction efficiency.

11. (*Original*) The optical inspection system as set forth in claim 10, wherein the diffractive optical element is a Dammann grating.

12. (*Original*) The optical inspection system as set forth in claim 9, further comprising:

an objective lens focusing the multiple beams at a target; and
a detector receiving light returned from the target, through the objective lens
wherein the detector includes a multiple line CCD camera, and wherein each of the multiple annular beams is received on a separate one of the lines of the multiple line CCD camera.

13. (*Original*) An optical inspection system, comprising:
a light source outputting a beam; and
a scanner scanning the beam in a beam spot across a target, the target being movable in a target movement direction;

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wherein the beam has a scanning direction not perpendicular to the target movement direction.

14. (*Currently Amended*) The optical inspection system as set forth in claim 13, ~~wherein the beam spot travels a distance in the mechanical scanning direction that is greater than the distance in between scan lines in the mechanical scanning direction~~ further comprising a beam splitter operating on said beam to produce at least one additional beam, wherein said scanner scans the additional beam in a direction not perpendicular to the target movement direction.

15. (*Currently Amended*) An optical inspection system, comprising:
a light source outputting a beam;
a beam splitter receiving the beam and producing therefrom a plurality of beams;
a scanner scanning the plurality of beams;
a confocal optical arrangement comprising a pinhole; and
optics for focusing the plurality of beams at a target and directing captured light to a detector through the confocal optical arrangement.

16. (*Currently Amended*) The optical inspection system as set forth in claim 15, ~~further comprising a control unit controlling the focus of the optics based on:~~
~~a light level threshold, and~~

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~~a light level signal indicative of light received by the detector through the confocal optical arrangement~~ plurality of light detection elements, each corresponding to one of said plurality of beams.

17. (*Canceled*)

18. (*Original*) An optical inspection system, comprising:

a light source providing a beam of light through a pupil;
a multiple beam splitter receiving the light through the pupil;
a scanner receiving the multiple beams and providing scanned multiple beams;
a beam splitter receiving the scanned multiple beams and illuminating a target through an objective lens;
the objective lens collecting light returned back from the illuminated target and passing the collected light through the beam splitter to an imaging lens;
the imaging lens receiving the light passing through the beam splitter and focusing the light to a bright field channel detector.

19. (*Currently Amended*) The optical inspection system as set forth in claim 18, wherein the bright field channel detector includes a multiple line CCD camera, and wherein each of the multiple annular beams is received on a separate one of the lines of the multiple line CCD camera.

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20. (*Currently Amended*) The optical inspection system as set forth in claim 18, further comprising:

an other beam splitter optically disposed between the imaging lens and the bright field channel detector; and

the light from the imaging lens passing through ~~deflected by the other~~ beam splitter being focused also on a dark field channel detector.

21. (*Original*) The optical inspection system as set forth in claim 20, wherein at least one of the bright field channel detector and the dark field channel detector includes a multiple line CCD camera, and wherein each of the multiple annular beams is received on a separate one of the lines of the multiple line CCD camera.

22. (*Original*) An optical inspection system, comprising:
a light source providing a beam of light;
a scanner receiving the light through a first beam splitter and providing scanned light;
a second beam splitter receiving the scanned light through a scan lens, and illuminating a target through an objective lens;
the objective lens collecting light returned back from the illuminated target and passing the collected light to the second beam splitter;
the second beam splitter providing part of the collected light, as a returned light signal, back through the scan lens and scanner to the first beam splitter;

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the first beam splitter deflecting the returned light signal through a focusing lens and a pinhole; and

one or more detectors receiving the light through the pinhole.

23. (*Original*) The optical inspection system as set forth in claim 22, wherein:
the light source provides the beam of light through a pupil;
a multiple beam splitter receives the light through the pupil;
the light received by the scanner includes multiple beams provided by the multiple beam splitter, and the light scanned by the scanner includes multiple scanned beams;
the second beam splitter provides part of the collected light through an imaging lens to a bright field channel detector.

24. (*Original*) The optical inspection system as set forth in claim 23, wherein the bright field channel detector includes a multiple line CCD camera, and wherein each of the multiple annular beams is received on a separate one of the lines of the multiple line CCD camera.

25. (*Original*) The optical inspection system as set forth in claim 23, further comprising:

a third beam splitter optically disposed between the imaging lens and the bright field channel detector; and

the light from the imaging lens passing through the third beam splitter being focused also on a dark field channel detector.

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26. (*Original*) The optical inspection system as set forth in claim 25, wherein the multiple scanned beams are annular beams.

27. (*Original*) The optical inspection system as set forth in claim 25, wherein at least one of the bright field channel detector and the dark field channel detector includes a multiple line CCD camera, and wherein each of the multiple annular beams is received on a separate one of the lines of the multiple line CCD camera.

28. (*Original*) The optical inspection system as set forth in claim 23, wherein the multiple beam splitter produces the multiple beams with a diffractive optical element having uniform diffraction efficiency.

29. (*Original*) The optical inspection system as set forth in claim 28, wherein the diffractive optical element is a Dammann grating.

30. (*Original*) The optical inspection system as set forth in claim 22, wherein:
the target is movable in a target movement direction; and
the scanner scans with a scanning direction not perpendicular to the target movement direction.

31-59. (*Canceled*)